Subject: BOMA International Comments on
From: "Dave Johnston" <djohnston@boma.org>
To: <wtc@nist.gov>

August 4, 2005

WTC Technical Information Repository
Attention: Mr. Stephen Cauffman
National Institute of Standards and Technology
Stop 8610
Gaithersburg, Maryland 20899-8610

Dear Members of the NIST World Trade Center Investigation Team:

BOMA was founded in 1907 and is a dynamic international federation of over 100 local associations. BOMA's 19,000-plus members own or manage more than 9 billion square feet of downtown and suburban commercial properties and facilities in North America and abroad. The mission of BOMA is to advance the performance of commercial real estate through advocacy, professional competency, standards and research.

BOMA International appreciates the National Construction Safety Team making its draft reports on the World Trade Center Disaster available for public comment. The tragic event of September 11, 2001 is a day that will always be remembered.

BOMA International will comment on most of the 30 recommendations that the Team has made. BOMA also wants to urge the Team to consider the fact that safety in the built environment has made tremendous strides over the past several decades. Improvements in structures, fire protection systems, building components and materials have made for a safer place for building occupants that ever before. Through the consensus code development process, further improvements will be made. These improvements, like past improvements, will be incremental, carefully considered, fair to occupants and owners, and cost-effective.

Building safety is an issue that BOMA International and its membership take very seriously. BOMA International will work with any organization that has the improvement of building safety in mind. BOMA reminds NIST that improvement in building safety is a gradual process built upon past experience and the advances of new technology.

Again, we express our appreciation for the opportunity to submit comments on the recommendations.

Sincerely,

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BOMA Comments to NIST on WTC Recs.doc

BOMA Comments on
NIST Recommendations Contained in the
Report on the WTC Disaster

Recommendation 1:

Progressive Collapse: The big issue here would be to what extent it would be required to 'prevent' progressive collapse. How many column failures (specific number, a percentage of a floor; etc) would need to be able to be withstood? "Progressive collapse should be prevented" is a pretty vague 'goal', without better explanation of what factors must be considered.

Recommendation 2:

No Comment.

Recommendation 3:

No Comment.

Recommendation 4:

BOMA believes that any code change recommended by NIST must be considered by national bodies and not on a community-by-community basis.

The record of sprinklered building performance is outstanding, no matter what their size. There is no need to increase redundancy with enhanced passive fire protection systems or passive fire protection systems in general. (This should be one of our major, recurring, points. Where is the basis to claim that sprinklers need to be assumed to fail completely? Especially while not noting that 'passive' solutions (or redundancies) also include active components (doors, dampers) that may fail, and that if not adequately maintained, the passive solutions may not work as advertised. In sum, BOMA points to the inspection, maintenance, and testing requirements for sprinkler systems and their excellent performance record. Re: the 12,000 compartment limitation: it would have significant impact, and again, cannot be justified in a sprinklered building.

How many situations could compromise any fire protection system? The number of specific perils needs to be assessed by the national building code community.

Recommendation 5:

No comment.

Recommendation 6:

No comment.

Recommendation 7:

No comment

Recommendation 8:

This recommendation is a bit unrealistic and unwarranted. NIST assumes the complete loss of the sprinkler system, and no intervention by fire department. This has two parts: how much compartmentation would be required (to keep the uncontrolled fire from spreading), and how the burnout could occur and not lead to collapse (progressive collapse issue).

Recommendation 9:

The effort to 'retrofit' on a large building-wide scale is an enormous task. This recommendation should, at least initially, be focused on new buildings.

Recommendation 10:

BOMA International concurs, but to achieve it is going to take some time.

Recommendation 11:

BOMA International concurs. However, it must be noted that this is a state-of-the-art type of recommendation. Certainly the buildings being designed now are better than the buildings designed10 years ago, and the building 10 years from now will be even better.

Recommendation 12:

Greater risks associated with greater heights? BOMA International will question what criteria and facts NIST is using to justify 'gold-plated' over-engineered fire protection requirements. Some questions that BOMA poses to NIST: How can building population be determined at any given time? What is 'higher threat profile'? NIST again says we must enhance the systems/design of what we now have. Where is data that shows that sprinklers fail? There is a lack of history to prove NIST's claim of 'increased risk' in taller buildings.

Recommendation 13:

This is more a communications issue. As long as this stays a general "more communication is better", the recommendation is hard to argue against. A modern zoned voice-alarm system would provide most, if not all, of what NIST is asking for here. Also, the NIST recommendation is against hardwired fire-department communication systems, which seems to be the direction building design is going. Communications providers are producing better and more reliable radio systems (sometimes requiring repeaters or antennas in buildings).

Recommendation 14:

Early detection is a big part of minimizing a fire. Many buildings just don't require this type of fire command center. Incremental improvements in the information provided will continue as the industry evolves, and major mandated advances are not warranted....a 'modern' system provides a good deal of information already (water flow location, fire alarm zones, etc.) Security and other building management systems controls also already can provide extensive info....video, doors open/closed, temperature, etc.

Recommendation 15:

This recommendation is just too costly to implement. BOMA International asks NIST exactly how many building collapses have there been.....ever? Again, this may be an incremental change that will occur as building management systems continue to evolve. Mandating off-site transmission doesn't appear warranted, and raises many questions.....off-site to whom? (fire department? property management company?)

Recommendation 16:

Drills are good. BOMA International encourages the inclusion of fire drills in any building emergency management plan. A large amount of assistance is going to be required from the United States Fire Administration to advance this awareness.

Recommendation 17:

Certainly, fire protection system that extend building performance and that extend the time for building evacuation should be taken into account. Trade offs between the various systems are going to be important as the building community goes forward in making buildings safer.

BOMA International is concerned about paragraph (b) in the recommendations, which focuses on persons with disabilities, specifically about the 'provide them means of self-evacuation' recommendation. BOMA International believes that it's more appropriate to stay with current Americans with Disabilities Act provisions.....evacuation planning is just another policy/procedure...and it should include provisions for how to accommodate persons with disabilities.

Recommendation 18:

Although this recommendation is more common sense than anything else, NIST needs to look at why it is making this recommendation. BOMA International recommends that buildings should be designed to provide safety to building occupants until the occupants can evacuate them.

If NIST starts to tie elevator locations to 'travel distance', which is a big leap towards starting to treat elevators as 'means of egress' components, this is a huge leap. Opening the door toward considering elevators as a way to move people in some situations is satisfactory; however the initiation of considering them parts of the means of egress, or as exits, is another matter entirely that BOMA questions.

Recommendation 19:

BOMA agrees with this recommendation and has publications to accommodate it. BOMA International currently works with the Department of Homeland Security on real estate alerts that notify building owners and managers of specific threats that are considered such by DHS.

BOMA International as well makes available emergency planning information to buildings owner and managers. This is accomplished through standard publications that BOMA makes available through it publications catalogue and through the offering of courses, seminars, and committee meetings.

Recommendation 20:

This is a pretty vague recommendation. I would assume that NIST would hope that the model codes would consider ALL the recommendations, not just these.

Recommendation 21:

Yes, building elevator protocols should be reviewed by code groups. This recommendation proposes separate, dedicated, hardened elevators for fire department use. It isn't clear how NIST justifies adding elevators that will ONLY be used in major emergencies. Why isn't use of general building elevators (which are used all the time, and therefore possibly more likely to be maintained), with whatever 'enhancements' might be found to be needed, acceptable?

Recommendation 22:

This recommendation is really not a matter for building owners. However, it may come into play for building owners if building owners need to provide signal repeaters or antenna. BOMA will comment on a specific proposal if it is advanced.

Recommendation 23:

BOMA International sees this recommendation as very expensive to implement. BOMA encourages NIST to accomplish a cost-benefit study prior to urging the adoption of this recommendation.

Recommendation 24:

This recommendation is directed more at the emergency response teams than for building owners and managers.

Recommendation 25:

BOMA International questions whether state and local governments would be receptive to this recommendation. A mandate to always have a third party review done, both of the design and the as-built condition, may be an intrusion on local government authority.

Recommendation 26:

BOMA International is unsure whether NIST is encouraging the sprinklering of existing buildings to the extent required in the codes for existing building (retroactive requirements), or to the extent required for new buildings. Even if only sprinklering buildings to meet retroactive code requirements, this picks up most high-rise buildings under NFPA 101 (unless an approved 'life safety plan' is done). Typically, retroactive sprinkler regulations have been a local/state issue.

Recommendation 27:

In an ideal world the idea of document retention is a good one. However, in reality, many buildings are older and, in some, if not many, their records are missing, inaccurate, or unusable for any number of reasons. Information for buildings of a certain size, if available, should be provided to emergency responders. If this recommendation does advance, it MUST focus on new buildings and maybe alteration work. An entire industry could otherwise be created to document existing buildings for which the original and/or as-built information is not available.

Recommendation 28:

BOMA International does not have an issue with this recommendation.

Recommendation 29:

The design professions are already stretched close to the maximum with so many knowledge requirements placed on them. There is very little, if any, room in curriculums currently for additional coursework on any topic. Possibly, there could be one designated profession to assume responsibility for complete knowledge on this topic. Architects, as the team leader, can collaborate with structural engineers, fire protection engineers, and as a team, they all can pull the project together. A solution to this maybe the institution of a certificate stating that "we, as a team, have looked at the risks related to fire damage and agree that we have employed the greatest technology presently available to mitigate those risks."

Recommendation 30:

BOMA International asks NIST the specific audience this recommendation is directed toward.